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ROBUST TECHNIQUES FOR OPTIMAL UPSTREAM COMMUNICATION  
BETWEEN CABLE MODEM SUBSCRIBERS AND A HEADEND

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ABSTRACT

A number of features for enhancing the performance of a cable transmission system in which data is transmitted between a cable modem termination system at a headend and a plurality of cable modems located different distances from the headend. The power transmission level, slot timing, and equalization of the cable modems are set by a ranging process. Data is transmitted by the modems in fragmented form. Various measures are taken to make transmission from the cable modems robust. The upstream data transmission is controlled to permit multiple access from the cable modems.

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